WHAT IS CLAIMED

1. An article of manufacture comprising:

an outer metallic shell having an aperture therethrough sized to receive a conductor pin-retaining metallic insert;

said conductor pin-retaining metallic insert comprising a laminate of dissimilar metals, including a first metal having a first coefficient of thermal expansion, and a second metal having a second coefficient of thermal expansion that is different from said first coefficient of thermal expansion;

at least one aperture extending through said metallic insert and containing at least one conductor pin hermetically sealed therewith by a dielectric material formed between said at least one conductor pin and a sidewall of said at least one aperture; and

a hermetic bond joint formed between said second metal of said metallic insert and metallic material of said outer metallic shell.

2. The article of manufacture according to claim 1, wherein said hermetic bond joint comprises a solder joint.

3. The article of manufacture according to claim 1, wherein said hermetic bond joint comprises a weld joint.

4. The article of manufacture according to claim 1, wherein said second coefficient of thermal expansion is proximate to the coefficient of thermal expansion of said outer metallic shell.

5. The article of manufacture according to claim 1, wherein said second coefficient of thermal expansion is higher than said first coefficient of thermal expansion.

6. The article of manufacture according to claim 1, wherein said second coefficient of thermal expansion is lower than said first coefficient of thermal expansion.

7. The article of manufacture according to claim 1, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert comprise aluminum, and aluminum alloy or a metal that has a coefficient of thermal expansion compatible therewith.

8. The article of manufacture according to claim 7, wherein said first metal of said conductor pin-retaining metallic insert comprises stainless steel.

9. The article of manufacture according to claim 1, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert

comprise materials selected from titanium, stainless steel, kovar and iron/nickel alloys.

10. The article of manufacture according to claim 7, wherein said first metal is kovar, iron/nickel alloy or carbon steel.

11. The article of manufacture according to claim 1, wherein said dielectric material has a process temperature below the melting point of said second metal.

12. The article of manufacture according to claim 11, wherein said dielectric material comprises at least one of a glass and a ceramic material.

13. The article of manufacture according to claim 1, wherein said at least one aperture comprises a plurality of apertures extending through said metallic insert and containing respective ones of a plurality of conductor pins hermetically sealed therewith by dielectric material formed between said conductor pins and sidewalls of said plurality of apertures.

14. The article of manufacture according to claim 1, wherein said outer metallic shell and a package wall therefor are formed as an integrated structure.

15. A multipin connector for hermetically sealing a plurality of connector pins therein, comprising:

an outer metallic shell having an aperture therethrough sized to receive a multipin-retaining metallic insert;

said multipin pin-retaining metallic insert comprising a laminate of dissimilar metals, including a first metal extending to a first side of said insert and having compatibility with hermetic sealing of an electrically insulated metal pin, and a second metal extending to a second side of said insert and having metallurgical compatibility with said outer metallic shell to facilitate a hermetic bond therewith;

a plurality of apertures extending between said first and second sides of said metallic insert and containing a plurality of connector pins that are hermetically sealed with said first metal of said insert by a dielectric material formed between said pins and sidewalls of said apertures; and

a bond joint formed between said second metal of said metallic insert and metallic material at a side of said outer metallic shell adjacent said second side of said metallic insert.

16. The multipin connector according to claim 15, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert comprise aluminum, and aluminum alloy or a metal that has a coefficient of thermal expansion compatible therewith.

17. The multipin connector according to claim 15, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert comprise titanium and ferrous alloys, such as Kovar, stainless steel and ferrous/nickel alloys.

18. The multipin connector according to claim 15, wherein said first metal of said conductor pin-retaining metallic insert comprises stainless steel.

19. Multipin connector according to claim 13, wherein said first metal is kovar, iron/nickel alloy or carbon steel.

20. The multipin connector according to claim 15, wherein said dielectric material has a process temperature below the melting point of said second metal.

21. The multipin connector according to claim 20, wherein said dielectric material comprises at least one of glass and ceramic material.

22. The multipin connector according to claim 13, wherein said outer metallic shell and a package wall therefor are formed as an integrated structure.

23. A method of forming a multipin connector for hermetically sealing a plurality of connector pins therein, comprising the steps of:

(a) providing an outer metallic shell having an aperture therethrough that is sized to receive a multipin-retaining metallic insert;

(b) providing a metallic insert that is sized to be captured in said aperture of said outer metallic shell, said metallic insert comprising a laminate of dissimilar metals, including a first metal extending to a first side of said insert and having a first coefficient of thermal expansion, and a second metal extending to a second side of said insert and having a second coefficient of thermal expansion different from said first coefficient of thermal expansion and proximate to the coefficient of thermal expansion of said outer metallic shell;

(c) forming a plurality of apertures in said metallic insert so that said plurality of apertures extend between said first and second sides of said metallic insert;

(d) hermetically sealing a plurality of connector pins within said plurality of apertures in said metallic insert by means of a dielectric material formed between said connector pins and sidewalls of said apertures of said first metal of said metallic insert; and

(e) inserting said metallic insert into said aperture of said outer metallic shell, and forming a bond joint between said second metal of said metallic

insert and metallic material at a side of said outer metallic shell adjacent said second side of said metallic insert.

24. The method according to claim 23, wherein said dielectric material has a process temperature below the melting point of said second metal.

25. The method according to claim 24, wherein said dielectric material comprises at least one of glass and ceramic material.

26. The method according to claim 23, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert comprise aluminum, and aluminum alloy or a metal that has a coefficient of thermal expansion compatible therewith.

27. The method according to claim 23, wherein said outer metallic shell and said second metal of said conductor pin-retaining metallic insert comprise materials selected from titanium, stainless steel, kovar and iron/nickel alloys.

28. The method according to claim 26, wherein said first metal of said conductor pin-retaining metallic insert comprises stainless steel.

29. The method according to claim 26, wherein said first metal of said conductor pin-retaining metallic insert comprises a material selected from kovar, Fe/Ni alloys and carbon steel.

30. The method according to claim 23, wherein said second metal of said conductor pin-retaining insert is welded to said outer metallic shield.

31. The method according to claim 23, wherein said second metal of said conductor pin-retaining insert is soldered to said outer metallic shell.